

Balcones Canyonlands Conservation Plan

2014 Annual Report

(October 1, 2013 – September 30, 2014)

USFWS Regional Section 10(a)(1)(B) Permit No. TE-788841-2

Travis County – City of Austin



Submitted by
The Balcones Canyonlands Conservation Plan
Coordinating Committee
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CONTENTS

BACKGROUND	5
PERMIT REQUIREMENTS	7
DEVELOPMENT ACTIVITY WITHIN THE PERMIT AREA.....	8
MITIGATION CREDIT BALANCE	8
PARTICIPATION CERTIFICATE ACTIVITY	10
FUNDS COLLECTED THROUGH PARTICIPATION CERTIFICATES.....	10
FUNDS COLLECTED THROUGH TAX BENEFIT FINANCING	11
FUNDS EXPENDED FOR LAND ACQUISITION.....	12
FUNDS EXPENDED FOR OPERATIONS AND MAINTENANCE	13
UPDATED MAP OF LANDS DEDICATED TO THE BALCONES CANYONLANDS PRESERVE	14
FY 2014 RESEARCH OR INVESTIGATIVE REPORTS.....	15
PUBLIC USE, HABITAT AND WILDLIFE MONITORING, AND MANAGEMENT ACTIVITIES OCCURRING WITHIN THE BALCONES CANYONLANDS PRESERVE.....	15
CITY OF AUSTIN.....	15
TRAVIS COUNTY.....	30
LOWER COLORADO RIVER AUTHORITY.....	38
CITY OF SUNSET VALLEY.....	40
THE NATURE CONSERVANCY OF TEXAS.....	40
TRAVIS AUDUBON SOCIETY	41
LITERATURE CITED.....	42

LIST OF TABLES

<i>Table 1. Species Covered by the Balcones Canyonlands Conservation Plan.....</i>	<i>5</i>
<i>Table 2. Infrastructure Projects Mitigated through the Use of Mitigation Credits During FY14 by Participating Agency.....</i>	<i>9</i>
<i>Table 3. FY14 Projects Mitigated Through the Purchase of Participation Certificates.....</i>	<i>11</i>
<i>Table 4. USFWS HCP Land Acquisition Grant Awards Received by the Permit</i>	

<i>Holders, 1997-2014.....</i>	<i>12</i>
<i>Table 5. Travis County and City Of Austin FY14 BCP Land Acquisitions.....</i>	<i>13</i>
<i>Table 6. Annual FY12 through FY14 BCP Budgets (excluding Land Acquisition Costs) for Permit Holders, the Managing Partner, and Cooperating Entities with Summary of Total Budgets since Plan Inception.....</i>	<i>14</i>
<i>Table 7. Management Status of City of Austin BCP Properties.....</i>	<i>16</i>
<i>Table 8. City of Austin Monitoring and Management Activities on BCP Tracts within the Bull Creek Macrosite.....</i>	<i>17</i>
<i>Table 9. City of Austin Monitoring and Management Activities on BCP Tracts within The Barton Creek, Cypress Creek, North Lake Austin, South Lake Austin and West Austin Macrosites.....</i>	<i>18</i>
<i>Table 10. BCCP Partners Education and Volunteer Activities Summary for FY14.....</i>	<i>29</i>
<i>Table 11. Monitoring and Management Activities on Tracts Owned by Travis County within the Bull Creek, North Lake Austin, South Lake Austin, West Austin, and Pedernales River Macrosites and the Cave Tracts.....</i>	<i>31</i>
<i>Table 12. Monitoring and Management Activities on Tracts Owned by Travis County within The Cypress Creek Macrosite.....</i>	<i>32</i>
<i>Table 13. Volunteer Hours Contributed to Travis County's BCP on FY14.....</i>	<i>37</i>
<i>Table 14. Travis County BCP Education and Outreach Summary for FY14.....</i>	<i>37</i>

LIST OF APPENDICES:

<i>Appendix A – City of Austin Development Permits Issued in the BCCP Permit Area for FY 2014</i>
<i>Appendix B – Travis County Development Permit Issued in the BCCP Permit Area for FY 2014</i>
<i>Appendix C – Balcones Canyonlands Preserve Properties by Macrosite</i>
<i>Appendix D – Balcones Canyonlands Preserve Properties by Management Agency</i>
<i>Appendix E – Balcones Canyonlands Preserve System Map</i>
<i>Appendix F – City of Austin 2014 Golden-cheeked Warbler (Setophaga chrysoparia) Monitoring Program</i>
<i>Appendix G – City of Austin 2014 Black-capped Vireo (Vireo atricapilla) Monitoring Program</i>
<i>Appendix H – Balcones Canyonlands Preserve Karst Monitoring and Management FY2014 Report</i>
<i>Appendix I – FY 2014 Report on Monitoring and Management of the Golden-cheeked Warbler (Setophaga chrysoparia) on Travis County</i>

Tracts of the Balcones Canyonlands Preserve

Appendix J - FY 2014 Report on Monitoring and Management of the Black-capped Vireo (Vireo atricapilla) on Travis County's Balcones Canyonlands Preserve

Appendix K – Travis County FY 2014 Jollyville Plateau Salamander Monitoring Report

Appendix L – FY 2014 Summary of Wildlife and Plant Management Activities on Travis County's Balcones Canyonlands Preserve and Select Parks

Appendix M – Wild Basin Wilderness Preserve 2014 Annual Report

Appendix N – City of Sunset Valley Gaines Greenbelt 2014 Annual Report

Appendix O – Travis Audubon Society Baker Sanctuary 2013-2014 Annual Report

Appendix P – Research Reports:

1. Barrick, Andrew, N. Minicone, M. Wasserman, J. Abbot, and A. Clamann. *The Assessment of Macroinvertebrates in the Balcones Canyonlands Preserve.* St. Edwards University. 2014.
2. Belaire, Amy, C. Chidester, C. Dunphy, and D. Hutchinson. *Abundance and Distribution of Avian Nest Predators at Wild Basin.* St. Edwards University. 2014.
3. Belaire, Amy, N. Salinas, and M. Moore. *Conservation Psychology of Off-trail Use.* St. Edwards University. 2014.
4. Belaire, Amy, N. Salinas, M. Moore, J. LaManna, and J. Walther. *Evaluation of a 30-year Old Restoration Site at Wild Basin.* St. Edwards University. 2014
5. Bendik, Nathan F. *Jollyville Plateau Salamander Interim Report, 2014, for Balcones Canyonlands Preserve.* City of Austin. Watershed Protection. 2014.
6. Blanton and Associates. *Final Report: Wheless Preserve Golden-cheeked Warbler Territory Mapping Spring 2014.* Lower Colorado River Authority. 2014.
7. Cuellar, Karina. *Microbial Warfare in Soil: An Investigation of Microbial Competition Using Secondary Metabolites.* St. Edwards University. 2014.
8. Davis, Kristin, H. Mathewson and M. Morrison. *Analysis of the Golden-cheeked Warbler in Relation to Construction Activity Along Highway 71.* Texas A&M University, Institute of Renewable Natural Resources. 2014.
9. Diaz, Peter. *Report on Activities on Travis County Lands and Balcones Canyonlands Preserve from October 1, 2013 to September 30, 2014.* Texas Fish and Wildlife Conservation Office. 2014

10. Glick, Roger. *Stormwater Monitoring in Upper Bull Creek and Flint Ridge Cave.* City of Austin Watershed Protection Department. 2014.
11. Hauser, Charles. *Metagenomics of Glen Rose Soil Microbial Systems and their Role(s) in Carbon Cycling and Native Plant Restoration at the Black-capped Vireo Research Area and Wild Basin Wilderness Preserve.* Bioinformatics Program, St. Edward's University. 2014.
12. Hedin, Marshall. *Using Novel Genetic Markers and Multigenic Species Delineation Methods to Resolve the Species Status of the Cave-dwelling spider *Cicurina wartoni* Gertsch from Travis County, Texas.* San Diego State University. 2014.
13. Johns, David A. *Tracing in the Balcones Canyonlands Bull Creek Preserve: Lanier and Hog Wallow Springs.* City of Austin Watershed Protection Department. 2014
14. Johns, David A. *Annual Report to the City of Austin Balcones Canyonlands Preserve Monitoring WTP4 and the JTM.* City of Austin Watershed Protection Department. 2014
15. Johnson, David R., A. Alexander, D. Ben-Moyel, D. Bruno, and E. Nowaicek. *Determining the Interannual Variability in Vegetation Structure and the Relationship between Structure and Ecosystem Function at Wild Basin Preserve.* St. Edwards University. 2014.
16. LaMann, James, J. Abbott, and A. Belaire. *A Test of the Relative Abundance, Diversity and Distribution of Ants at the Vireo Preserve in Relation to Habitat Manipulation for the Black-capped Vireo (*Vireo atricapilla*).* St. Edwards University. 2014.
17. Pearce, Philip C. *Karst Feature Survey for the Leander Independent School District Vandegrift and Four Points Campus Proposed Access Road with the Balcones Canyonland Conservation Plan Preserve.* SWCA. 2014
18. Reidy, Jennifer L., L. O'Donnell, and F. Thompson III. *Assessing Golden-cheeked Warbler Productivity with Reproductive Index: Is it Good Enough?* United States Fish and Wildlife Service. 2014.
19. Texas A&M Forest Service. *Urban Forest Inventory and Analysis: City of Austin 2014 Field Year.* Texas A&M Forest Service. 2014.
20. Wagner, Staryn, A. Richter, and M. Scoggins. *Live Staking Methodology Review.* City of Austin Watershed Protection Department. 2014.
21. Waters, Aaron, J. Carpenter, M. Wasserman, and T. Bilinski. *Determination of Chemical Indicators for the Health and Integrity of Stream Ecosystems in the Bee Creek Watershed.* St. Edwards University. 2014.
22. Whitehead, Warren. *I-Tree Ecosystem Analysis: Urban Forest Effects and*

Values. City of Austin Department of Urban Forestry. 2014.

23. Zara Environmental. *Cave Cricket Foraging Study From Stark's North Mine to Proposed North Walnut Creek Trail Austin, Travis County, Texas.* RPS Group. 2014.
24. Zara Environmental. *2014 Summary of Cave Management Activities at Pennie's Cave, Travis County, Texas.* Brandywine Realty Trust. 2014.

Background

On May 2, 1996, the City of Austin and Travis County were jointly issued a U.S. Fish and Wildlife Service (USFWS) regional permit referred to as the Balcones Canyonlands Conservation Plan (BCCP). This permit allows incidental “take” of eight locally occurring endangered species in compliance with Section 10(a)(1)(B) of the Endangered Species Act (USFWS, 1996a). The 30-year permit covers approximately 561,000 acres in western Travis County identified in the Habitat Conservation Plan and Final Environmental Impact Statement (HCP) (USFWS, 1996b). The permit also covers incidental take of 27 species of concern should any become listed as threatened or endangered during the life of the permit (Table 1).

Table 1. Species Covered by the Balcones Canyonlands Conservation Plan.

Common name	Scientific name	Status
Black-capped vireo	<i>Vireo atricapilla</i>	Endangered
Golden-cheeked warbler*	<i>Setophaga chrysoparia</i>	Endangered
Tooth Cave pseudoscorpion	<i>Tartarocreagris texana</i>	Endangered
Tooth Cave spider	<i>Neoleptoneta myopica</i>	Endangered
Bee Creek Cave harvestman	<i>Texella reddelli</i>	Endangered
Bone Cave harvestman	<i>Texella reyesi</i>	Endangered
Tooth Cave ground beetle	<i>Rhadine persephone</i>	Endangered
Kretschmarr Cave mold beetle	<i>Texamaurops reddelli</i>	Endangered
Canyon mock-orange	<i>Philadelphus ernestii</i>	Species of Concern
Texabama croton	<i>Croton alabamensis</i>	Species of Concern
Flatworm	<i>Sphalloplana mohri</i>	Species of Concern
Ostracod	<i>Candona</i> sp. nr. <i>stagnalis</i>	Species of Concern
Isopod	<i>Caecidotea reddelli</i>	Species of Concern
Isopod	<i>Trichoniscinae</i> N.S.	Species of Concern
Isopod	<i>Miktoniscus</i> N.S.	Species of Concern
Spider	<i>Cicurina wartoni</i>	Species of Concern
Spider	<i>Cicurina ellioti</i>	Species of Concern
Spider	<i>Cicurina bandida</i>	Species of Concern
Spider	<i>Cicurina reddelli</i>	Species of Concern
Spider	<i>Cicurina reyesi</i>	Species of Concern
Spider	<i>Cicurina cueva</i>	Species of Concern
Spider	<i>Cicurina travisae</i>	Species of Concern
Spider	<i>Neoleptoneta concinna</i>	Species of Concern
Spider	<i>Neoleptoneta devia</i>	Species of Concern
Spider	<i>Eidmannella reclusa</i>	Species of Concern

Harvestman	<i>Texella spinoperca</i>	Species of Concern
Pseudoscorpion	<i>Aphrastochthonius</i> N.S.	Species of Concern
Pseudoscorpion	<i>Tartarocreagris reddelli</i>	Species of Concern
Pseudoscorpion	<i>Tartarocreagris intermedia</i>	Species of Concern
Pseudoscorpion	<i>Tartarocreagris</i> N.S. 3	Species of Concern
Pseudoscorpian	<i>Tartarocreagris comanche</i>	Species of Concern
Millipede	<i>Speodesmus</i> N.S.	Species of Concern
Ground beetle	<i>Rhadine s. subterranea</i>	Species of Concern
Ground beetle	<i>Rhadine s. mitchelli</i>	Species of Concern
Ground beetle	<i>Rhadine austinica</i>	Species of Concern

*Scientific reclassification in 2011 from *Dendroica chrysoparia* to *Setophaga chrysoparia*

Permit Requirements

The City of Austin and Travis County (the Permit Holders) are required to assemble and manage a minimum of 30,428 acres of suitable habitat for the golden-cheeked warbler and the black-capped vireo. Additionally, Permit Holders are required to protect and manage populations of canyon mock orange and Texabama croton. The Permit Holders are also required to acquire, manage, and/or ensure protection for 35 karst features which support populations of six species of endangered karst invertebrates. An additional 27 karst features are known to harbor 25 karst-specific species of concern. This system of managed and protected habitats is known as the Balcones Canyonlands Preserve (BCP or Preserve). The locations of habitat areas and specific karst features proposed for protection are delineated in the HCP (USFWS, 1996b).

Agencies or organizations which enter into formal agreements with the Permit Holders in order to manage designated Preserve lands in accordance with the BCCP are considered Managing Partners. Until 2014, the sole BCP Managing Partner was the Lower Colorado River Authority (LCRA), which manages 2,707 acres as a portion of the Preserve system. As a Managing Partner, LCRA may mitigate for capital improvement and infrastructure development projects through the mitigation credit system established by the BCCP. On 7 February 2014, the City of Sunset Valley entered into a BCP Managing Partner Agreement and designated 21.585 acres, known as the Gaines Greenbelt, to be included as part of the BCP. The Gaines Greenbelt mitigates for impacts to golden-cheeked warblers, black-capped vireos, and karst species due to maintenance, improvement and public use of the Gaines Greenbelt Trail, and future impacts associated with social trail closure, fencing and signage.

The Nature Conservancy of Texas (TNCTX) and the Travis Audubon Society (TAS) also manage lands for public and environmental benefit within the BCP.

These organizations are not considered Managing Partners because no formal agreements with the Permit Holders have been finalized. The Permit Holders have initiated discussions with other municipalities and stakeholders within the permit area about joining the effort to achieve the goals of the BCCP through Managing Partner Agreements. The Permit Holders hope to forge new agreements securing protection for additional lands within the BCP.

The Permit further requires that the Permit Holders submit an annual report which provides the following:

- an annual summary of development activities within the Permit area
- an annual list of tracts for which Participation Certificates were issued
- the amount of funds collected through Participation Certificate and USFWS directed mitigation fees
- the amount of funds expended for land acquisition
- the amount of funds expended for BCP operations and maintenance
- an updated map of BCP lands
- a summary of public use and habitat management activities within the BCP
- copies of all research and investigation reports prepared within the last year.

Development Activity within the Permit Area

The City of Austin development activity report for Fiscal Year 2014 (FY14), which details a compilation of Development Permits issued within the City's jurisdiction of the Permit area, is located in Appendix A.

A summary of development permits issued by the Travis County Permitting office within the Permit area in FY14 is located in Appendix B.

Mitigation Credit Balance

The City of Austin's BCP staff administers the Capital Improvement and Infrastructure Development Project mitigation credit system on behalf of the BCCP Coordinating Committee. The mitigation needs of the Permit Holders and the Managing Partner for these projects are provided under the terms of the regional Permit. Mitigation credits are issued at a rate equal to the number of acres within the Preserve system managed under the terms and conditions of the Permit and the HCP/FEIS (U.S. Fish and Wildlife Service, 1996a and 1996b). BCP acreage that was originally mitigation under the BCCP Alternative Determination Process, or another Section 10(a) or Section 7 permit, is not included in this mitigation bank acreage total. Capital improvement and

infrastructure development mitigation needs are subtracted from this accumulated “bank” of credits at a rate of one acre of credit per acre of habitat impact, regardless of habitat zone (Table 2).

Table 2. Infrastructure Projects Mitigated Through the Use of Mitigation Credits in FY14 by Participating Agency.

City of Austin	
Starting City of Austin Balance	11,589.04 acres
New preserve additions (credits) –	0
AE – Commons Ford Rebuild – Phase 1	0.6
Remaining Mitigation Credits	11,588.44 acres
Travis County	
Starting Travis County Balance	4,803.591 acres
New preserve additions (credits)	1.0
Flintrock Road	5.1
Remaining Mitigation Credits	4,799.491 acres
Lower Colorado River Authority (LCRA)	
Starting LCRA Balance	2480.9 acres
New preserve additions (credits) –	0
Marshall Ford to McNeil (T-160) upgrade - Phase 1	7.7
Spicewood Springs Emergency Amerductor Replacement Project	1.20
Marshall Ford to McNeil (T-160) upgrade Phase 2	10.5
Lago Vista to Marshall Ford (T-256) upgrade	2.1
West Travis County Public Utility Agency (WTCPUA) SH71 20" Transmission Main	10.0
Remaining Mitigation Credits	2449.4 acres

A number of private landowners also manage habitat within the proposed preserve boundaries, often as required under individually issued Section 10(a) permits. These landowners are responsible for reporting in accordance with the terms and conditions of their individual permits directly to the USFWS and their reports are not incorporated into this Annual Report. The Permit Holders cooperate with these entities and private landowners to address species and land management concerns common to all BCP properties.

The City of Austin operates the BCCP Capital Improvement and Infrastructure Development Mitigation Process, and Travis County administers the BCCP Public Participation Process that addresses the mitigation needs of agencies and landowners under the terms of the Permit. The BCCP provides a voluntary, streamlined alternative for agencies and landowners seeking to comply with the

Endangered Species Act (the Act). Those entities participating through the BCCP have met their obligations under the Act and may proceed with development under the terms of their respective Participation Agreements. Those agencies and landowners choosing not to participate may comply with the Endangered Species Act by obtaining an individual 10(a) permit from the USFWS.

Participation Certificate Activity

Travis County's Natural Resources Department administers the BCCP Public Participation Process on behalf of the BCCP Coordinating Committee and issues Participation Certificates for cooperating landowners within the Permit area. Descriptions of participation categories are defined in the interlocal agreement which is entitled "Interlocal Cooperation Agreement between Travis County and the City of Austin Implementing the Balcones Canyonlands Conservation Plan Shared Vision" (City of Austin and Travis County, 1995). As required by the terms of the regional Permit, copies of each Participation Certificate and Habitat Determination map are provided to USFWS Austin Ecological Services office. During FY14, 18 Participation Certificates were issued as follows: five for commercial use, eight for single family residences, four for subdivisions, and one infrastructure project (Table 3).

Funds Collected through Participation Certificates

A total of \$481,525 was collected through the sale of Participation Certificates in FY14 (Table 3). In FY11, there was a change in protocol for processing BCCP Participation Certificate funds. Prior to these changes, participants wrote one check for mitigation to the Balcones Canyonlands Conservation Plan. Payment was collected by the Environmental Specialist with Travis County Natural Resources and deposited into a City of Austin bank account. On a quarterly basis, these funds were disbursed equally between the two Permit holders. At the request of auditors and the Permit holders, the protocol to collect and disburse Participation Certificate funds was changed in February of 2011 starting with BCCP #0654. The new protocol requires participants to issue two checks in equal amounts (50/50) to "BCCP-City of Austin" and "BCCP-Travis County." The checks are delivered to each agency for separate processing. These changes allowed each Permit Holder to have faster access to participation funds and allowed each agency to process funds exclusively through their own financial departments.

Table 3. FY14 Projects Mitigated Through the Purchase of Participation Certificates.

Application #	Date	Name	Category	Amount Paid
0723	10/24/2013	Susan and Mark Nestegard	Residential	\$2,000
0725	11/11/2013	Sweetwater Section 1 Village 1	Subdivision	\$38,225
0730	12/23/2013	Landon Marino	Residential	\$2,000
0735	12/23/2013	Steiner MF, Ltd.	Commercial	\$18,150
0738	1/21/2014	Kendall Kelly & James King	Residential	\$2,000
0721-A	1/21/2014	Travisso, Ltd., Heath Melton	Subdivision	\$34,925
0742	2/12/2014	Rachel Bosworth	Residential	\$2,000
0678	2/21/2014	George & Donaldson Realty, LLC/ Parke Properties I, LP	Commercial	\$8,450
0746	3/21/2014	A Scott & Shelly Rosales	Residential	\$2,000
0731	4/29/2014	Jarred Corbell/ 16 Cima Serena	Commercial	\$2,500
0749	5/12/2014	Sweetwater Sect. 1 Village J, WS-COS Development, LLC.	Subdivision	\$18,975
0721-B	5/19/2014	Travisso, Ltd., Heath Melton	Subdivision	\$327,800
0747	6/24/2014	Jim and Sharon Clishem	Residential	\$2,000
0743	2/14/2014	Waterloo Development Inc.	Commercial	\$9,350
0757	8/15/2014	Milton Frolick, KGI Wireless	Infrastructure	\$1,650
0758	8/28/2014	Vicki Bell	Commercial	\$5,500
0759	9/8/2014	Philip and Helen Zheng	Residential	\$2,000
0760	9/10/2014	Richard Bagdonas	Residential	\$2,000
			Total:	\$481,525

Funds Collected through Tax Benefit Financing

Travis County's Tax Benefit Financing Plan is a funding mechanism outlined in the "Interlocal Cooperation Agreement between Travis County and the City of Austin implementing the Balcones Canyonlands Conservation Plan Shared Vision" (City of Austin and Travis County, 1995). It is the method Travis County agreed to use for funding land acquisition and management. In FY14, Travis County's Tax Benefit Financing Plan generated \$11,958,661 for Travis County's land acquisition and management projects.

Funds Expended for Land Acquisition

The Permit Holders received \$60,584,037 in federal grant funds from 1997 to 2010 through the USFWS Section 6 HCP Land Acquisition Assistance Program. With the required match, a total of \$81,222,130 was spent on grant-funded BCP Preserve Acquisition, as indicated in Table 4.

Table 4. USFWS HCP Land Acquisition Grants Received by the Permit Holders, 1997-2014.

Year	Federal Grant Funds	Minimum Local Match *	Total Grant	Local Recipient
1997	\$1,000,000	\$333,333	\$1,333,333	City of Austin
1998	\$2,000,000	\$666,667	\$2,666,666	Travis County
1999	\$1,500,000	\$500,000	\$2,000,000	Travis County
2000	\$4,140,000	\$1,380,000	\$5,520,000	Travis County
2001	\$14,362,500	\$4,787,500	\$19,150,000	City of Austin, Travis County
2002	\$10,000,000	\$3,333,333	\$13,333,333	Travis County
2003	\$4,993,794	\$1,664,598	\$6,658,392	Travis County
2004	\$3,375,000	\$1,125,000	\$4,500,000	Travis County
2005	\$6,890,000	\$2,296,667	\$9,186,667	Travis County
2007	\$5,742,500	\$1,914,167	\$7,656,667	Travis County
2008	\$5,250,000	\$1,750,000	\$7,000,000	Travis County
2010	\$1,330,243	\$886,829	\$2,217,072	Travis County
Total	\$60,584,037	\$20,563,927	\$81,222,130	

* Minimum match does not include overmatches

Travis County continues to purchase Preserve properties using County funds without grant assistance. Fee simple purchases and alternative protection strategies such as conservation easements, donations, and deed transfers have been utilized. Use of these non-traditional measures provides opportunities to secure in-perpetuity protection for habitat lands that may not otherwise be available.

Travis County expended \$172.65 in FY14 on non-grant land acquisition activities. However, 18.7 acres were secured for the BCP through other land protection means. This included conservation easements on 8.295 acres, and a donation of 10.41 acres transferred to Travis County as part of individual 10(a)(1)(B) permit conditions. The City of Austin did not expend any funds on land acquisition during FY14. At the end of FY14, Travis County managed 7,660 acres of land within the BCP, and the City of Austin owned and managed 13,600 acres of land

within the BCP. For a detailed account of all BCP tracts assembled see Appendices C, D, and E. All Travis County and City of Austin FY14 BCP land acquisitions are shown by tract in Table 5.

Table 5. Travis County and City of Austin FY14 BCP Land Acquisitions.

Tract	Agency	Date Acquired	Acreage	Total Expenditures *
Hunt – Cons. Easement	Travis County	12/20/2013	7.295**	\$172.65
Cuevas East (new addition; 10(a) condition)	Travis County	2/17/14	7.0	\$0
Vista Point (new addition; 10(a) condition)	Travis County	2/17/14	3.41	\$0
Concordia (Amendment 1 to existing CE)	Travis County	7/15/14	1.0	\$0
		Total	18.705	\$172.65

* Total expenditures include land and associated acquisition costs

** Hunt tract was formerly 9.0 privately-managed acres counted as BCP; owners renegotiated 10(a) permit with USFWS in FY14 with terms including donation of CE over 7.295 acres to Travis County. Acquisition costs are for title insurance only.

Funds Expended for Operations and Maintenance

In FY14, the Permit Holders, LCRA, TNCTX, and the Travis Audubon Society (TAS) spent \$2,437,237 on operation and maintenance of BCP lands (Table 6).

The City of Austin spent a total of \$1,094,110 for FY14 to fund BCP management expenditures by the Austin Water Utility's Wildland Conservation Division - Balcones Canyonlands Preserve Program (WCD-BCP). This figure understates the City's total expenditures on this program since it does not include (1) work by other staff in Austin Water Utility on program administration and support; (2) operation and maintenance expenditures by Austin Parks and Recreation Department (PARD) operations on BCP-designated parkland; or (3) capital improvement projects related to offices, and other facilities/ infrastructure. The aforementioned expenditures cannot be readily determined from their program budgets.

Table 6. Annual FY12 through FY14 BCP Budgets (excluding land acquisition costs) for Permit Holders, the Managing Partner, and Cooperating Entities with Summary of Total Budgets since Plan Inception.

BCP Partner	FY 2012	FY 2013	FY 2014	Total Budget: 1996 to Present
City of Austin	\$1,030,625	\$1,237,653	\$1,094,110	\$14,579,225
Travis County	\$971,316	\$1,341,486	1,220,027	\$10,813,319
LCRA*	\$56,500	\$76,500	\$63,100	\$1,679,679
TNCTX	\$10,000	\$10,000	\$10,000	\$972,000
TAS	\$50,000	\$50,000	\$50,000	\$427,986
TOTALS	\$2,118,441	\$2,715,639	\$2,437,237	\$28,172,209

* Does not include expenditures by Westcave Preserve Corporation

The Travis County Natural Resources budget for the BCP Program in FY14 was \$1,220,027. This total includes Travis County General Fund expenditures, funds from Tax Benefit Financing, BCP Participation funds, and funds negotiated and received from private 10(a) holders for land managed by Travis County to support ongoing operations and maintenance of County-managed Conservation Easements. This sum does not include administrative, legal, law enforcement support or non-habitat-related operations and maintenance provided by other Travis County Departments. This sum also fails to estimate expenditures by St. Edwards University, which holds a contract to conduct educational programming and management of the County-owned Wild Basin Wilderness Preserve.

Updated Map of Lands Dedicated to the Balcones Canyonlands Preserve

With the addition of 21.3 acres to the BCP in FY14, 30,540 acres of black-capped vireo and golden-cheeked warbler habitat have been assembled by the Permit Holders with the assistance of cooperating landowners and entities. Even though the minimum 30,428 acres of endangered bird habitat has now been acquired, additional acreage will still be needed to meet the configuration requirements for the bird habitat blocks by macrosite and to acquire additional specific karst features required in the Permit.

Forty-seven of the 62 caves which are identified to be protected in the permit have been afforded some level of protection. Twelve additional endangered species karst features which are not listed on the permit are also protected on BCP land. A map illustrating the current status of the BCP is enclosed as

Appendix E. Summaries of BCP lands sorted by macrosite and managing entity are attached as Appendices C and D, respectively.

FY 2014 Research or Investigative Reports

Research reports for activities that occurred on the BCP are included as Appendices F through L and P1 through P24. See the table of contents for a list of appendices which include the author and title of each research report.

Public Use, Habitat and Wildlife Monitoring, and Management Activities Occurring within the Balcones Canyonlands Preserve

CITY OF AUSTIN

The following section lists the wildlife and habitat monitoring, management, and public use activities on City of Austin (COA) land counted as part of the BCP. The COA's BCP tracts are managed by WCD-BCP and PARD with different management responsibilities assigned to each entity (Table 7). PARD operations performs regular maintenance such as mowing, trash pickup, and some trail management activities, while WCD-BCP staff assumes primary responsibility for BCP management and monitoring.

Biologist Jonny Scalise was hired by WCD-BCP in February 2014 to fill a restored staff position. From that time on, BCP staff and the newly re-organized WCD facilities crew resumed responsibility of many of the management activities which we had relied upon volunteers to accomplish. Monitoring and Management Activities occurring within the COA BCP are summarized in Tables 8 and 9.

Table 7. Management Status of City of Austin BCP Properties

Tract	Primary Management Responsibility	Acreage
Upper Bull Creek Unit (Franklin, Gass, Hanks, Lanier, COA Canyon Creek plus MUD tracts, Gardens at Bull Creek, Bowman, and Sam Hamilton Memorial Reserve (former WTP 4 "entire tract")	AWU/BCP	1156.50
Middle Bull Creek Unit (Kent Butler Ecological Reserve, Beard Trust)	AWU/BCP	996.71
Lower Bull Creek Unit (Jester, Forest Ridge, 3M, Hilltop, Gibson/Nott, Hiller, Kruger)	AWU/BCP	1090.98
Lime Creek (incl. 100 acres of Austin-Simon, Ltd.)	AWU/BCP	586.70
Parke West, Coldwater/Cowfork, Long Canyon, Vaught Ranch	AWU/BCP	1393.86
Cortaña	AWU/BCP	1751.95
Double J&T	AWU/BCP	1730.00
Reicher Ranch	AWU/BCP	819.74
Bohls Ranch	AWU/BCP	450.14
Bohls II	AWU/BCP	18.81
Sansom	AWU/BCP	13.00
Senna Hills	AWU/BCP	35.00
Schramm Ranch	AWU/BCP	100.63
Vireo Preserve	AWU/BCP	214.00
Ullrich Water Treatment Plant	AWU/BCP	18.00
Barton Creek Ventures	AWU/BCP	13.62
	AWU/BCP Subtotal	10,389.64
Bull Creek District Park, Bull Creek Greenbelt	PARD/BCP	129.48
St. Edward's Park	PARD/BCP	50.00
Barrow Preserve	PARD/BCP	8.00
Emma Long Metro Park	PARD/BCP	950.00
Commons Ford Park	PARD/BCP	115.00
Barton Creek Wilderness Area (Barton Creek Venture)	PARD/BCP	1075.24
Barton Creek Greenbelt	PARD/BCP	814.64
Friesenhahn	PARD/BCP	62
Mt. Bonnell	PARD/BCP	6
	PARD/BCP Dual-Managed Subtotal	3,210.36
	TOTAL ACREAGE	13,600.00

Table 8. City of Austin Monitoring and Management Activities on BCP Tracts within the Bull Creek Macrosite.

Monitoring and Management Activities on the Balcones Canyonlands Preserve (City of Austin tracts)		Bowman	Canyon Creek	Canyon Creek MUD tracts 1 to 3	Franklin	Gardens at Bull Creek	Gass	Hanks	Lanier	Sam Hamilton Memorial	Beard Trust	Kent Butler Ecological Resv	Jester Estates Cave Preserve	Barrow Preserve	Bull Cr. Greenblt.	Forest Ridge	Gibson/Nott	Hillier/Hilltop	Jester	Krueger	St. Edwards Park	3M
Monitoring Activities	mist-net, band, and spot-map golden-cheeked warblers									X		X				X					X	X
	search for banded golden-cheeked warblers	X	X	X	X			X	X	X		X				X		X	X	X	X	X
	spot-map black-capped vireos											X				X						
	karst faunal surveys			X								X	X									
	cave cricket exit counts			X								X	X			X						
	Jollyville Plateau salamander surveys & mark/recapture			X	X			X	X	X		X		X								X
	bracted twistflower monitoring																					
	canyon mock-orange monitoring											X										
	vegetation monitoring											X										
	fuel moisture sampling of junipers																					
	white-tailed deer photo monitoring		X					X	X	X												X
	monitoring of oak wilt		X					X														
Management Activities	deer control																					
	feral hog control		X		X			X	X		X	X							X	X		X
	cowbird control									X			X									
	red imported fire ant control									X			X									
	restoration (planting native plants)				X	X		X		X		X				X		X				
	non-native plant control	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
	trash removal	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
	patrol for evidence of trespass, vandalism, or dumping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	maintenance of roads, fences, signs	X	X	X	X	X	X	X	X	X	X	X	X			X		X	X	X	X	X
	inspect utility corridor maintenance				X	X	X		X	X		X				X		X		X	X	X

Table 9. City of Austin Monitoring and Management Activities on BCP Tracts within the Barton Creek, Cypress Creek, North Lake Austin, South Lake Austin and West Austin Macrosites.

Monitoring and Management Activities on the Balcones Canyonlands Preserve (City of Austin tracts)	Barton Creek Wilderness	Barton Creek Greenbelt	Bohls II	Friesenhahn	Senna Hills	Austin-Simon	Lime Creek	Coldwater	Cortaña	Cowfork/Vaught	Emma Long	Long Canyon	Parke West	Bohls	Commons Ford	JJ&T/Sansom	Reicher Ranch	Schramm Ranch	Mount Bonnell	Ullrich	Vireo Preserve
mist-net, band, and spot-map golden-cheeked warblers	X	X						X			X			X		X	X				X
search for banded golden-cheeked warblers	X	X						X			X	X		X		X	X				X
spot-map black-capped vireos																					
karst faunal surveys	X	X					X		X				X							X	
cave cricket exit counts	X	X					X		X				X							X	
jollyville plateau salamander surveys																					
bracted twistflower monitoring	X	X																	X	X	X
canyon mock-orange monitoring																					
vegetation monitoring									X						X			X			X
fuel moisture sampling of junipers									X								X				
white-tailed deer photo monitoring							X			X			X				X				
monitoring of oak wilt	X	X		X					X		X	X				X	X				X
deer control													X				X				
feral hog control																					
cowbird control																					
red imported fire ant control							X						X								
restoration (planting native plants)									X		X				X		X	X			X
non-native plant control	X	X	X	X				X	X	X	X	X	X	X			X	X		X	X
trash removal	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
patrol for evidence of trespass, vandalism, or dumping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
maintenance of roads, fences, signs	X	X	X			X	X	X	X	X	X	X		X		X	X	X			X
inspect utility corridor maintenance	X	X		X					X							X					X

In addition, BCP staff conducted or coordinated the following:

BARTON CREEK MACROSITE

Barton Creek Wilderness Area and Greenbelt, and the Friesenhahn tract

- A rule established by Austin Parks and Recreation Department (PARC) managers in 2013, as a result of wildfire concerns raised by citizens, continued in effect, prohibiting any activity that would result in more than minimal slash remaining on site on PARC-owned properties. This rule essentially stalled all significant invasive plant removal activities in the heavily-infested Barton Creek watershed. City staff in the Watershed Protection Department (WPD) continued drafting a new plan for slash mitigation, in coordination with Austin Fire Department and BCP staff.
- Found 375 bracted twistflower (*Streptanthus bracteatus*) plants during a one-day census, May 7 (and an additional 6 in an isolated population a week earlier), far more than the 15 plants found during a similar census in 2013, but fewer than the 575 found in 2012.
- Found and mapped unauthorized camps, and, with Austin Police Department officers, evicted squatters.
- Stopped a cactus-poacher, and confiscated what had been collected.
- Repaired vandalized airmen's cave gate.
- Inspected erosion controls and re-vegetation of an oak wilt trench completed in 2009. Erosion controls appear to have been very effective, even where mountain-bikers continually cross them. Grasses and forbs have recolonized large areas of the trench, and little bare soil is still visible where there is no traffic.

BULL CREEK MACROSITE

Upper Bull Creek Unit

Franklin

- WPD staff initiated a dye trace study to try to determine the source of water for "pit springs".
- WPD staff continued to monitor the ongoing Jollyville transmission line construction located directly under Jollyville Plateau salamander habitat.
- COA BCP staff worked with PEC regarding the need to maintain the existing power line and not negatively impact GCW and Jollyville Plateau salamander habitat.

Hanks Tract and Gardens at Bull Creek

- Worked with WPD staff on maintenance issue of the sediment/flood control dam, including excavation of sediment and the removal of vegetation (ongoing).
- Restoration: planted walnuts in game-fenced area.

Lanier

- WPD staff continued to monitor the ongoing Jollyville transmission line construction located directly under Jollyville Plateau salamander habitat.
- WPD staff initiated a dye trace study to try to determine to source of water for “Lanier Spring”.
- Lanier House: discovered multiple break-ins, secured building, set up camera which then photographed individuals breaking into the building. Met with police, and periodically check on the site and camera. Worked on a demolition plan to remove this attractive nuisance (ongoing).
- In an effort to reduce wildfire risk, PEC de-energized the power line.

Sam Hamilton Memorial Reserve West

- Led the annual night hike, focusing on the sounds at night.
- Conducted Golden-cheeked Warbler hikes in April and May.
- In May and October 2014, monitored the 3600 shin oak acorns that were planted in November 2013 under dead and live Ashe junipers and in open areas as part of a germination/survival study. Results to date document highest germination and survival under live canopy and lowest in the open areas.
- Planted seeds of a variety of shrubs and forbs on February 27, March 1, and March 12 in areas that were impacted by the 2011 drought.
- In an effort to reduce wildfire risk, PEC de-energized the power line.
- WPD staff continued to monitor the ongoing Jollyville transmission line construction located directly under Jollyville Plateau salamander habitat.

Middle Bull Creek Unit

Kent Butler Ecological Reserve

- Documented, by photographs from established points, changes in vegetation under transmission lines as a result of Black-capped Vireo habitat improvement.

- LCRA initiated work on a major upgrade of an existing power line (T-160). COA BCP and WPD staff worked with LCRA in an effort to minimize damage to rare and listed species.
- In an effort to reduce fire risk, AFD removed ladder fuel from the preserve that was in close proximity to the existing neighborhood.

Beard Trust

- Awarded contract to repair existing damaged water gaps.

Lower Bull Creek Unit

Forest Ridge

- Prepared and presented hikes for those requesting a permit to hike through the Bull Creek Preserve during Golden-cheeked Warbler breeding season.
- Coordinated one trail work volunteer day: volunteers repaired the trail and erosion problems.

Jester

- In an effort to reduce fire risk, AFD removed ladder fuel from the preserve that was in close proximity to the existing neighborhood

3M

- LCRA initiated work on a major upgrade of an existing power line (T-160). COA BCP and WPD staff worked with LCRA in an effort to minimize damage to rare and listed species.

CYPRESS CREEK MACROSITE

Lime Creek/Austin Simon

- Oversaw construction of a game fence running the length of the northern boundary of the two tracts.
- Examined, with Travis Audubon staff, the result of a boundary survey of the neighboring Baker Sanctuary finding that a COA BCP road, used to reach the Austin Simon tract and western portions of the Lime Creek tract, encroaches onto Travis Audubon Society property.

NORTH LAKE AUSTIN MACROSITE

Parke West/Coldwater/Cowfork/Long Canyon/Vaught Ranch

- Redesigned and replaced water gap on upstream section of fence at Vaught Ranch.
- Investigated collision into fence along City Park Road and had damage to fence repaired.
- Oversaw construction of the Parke West northern perimeter fence.
- Collected soil samples for routine analyses from areas within and outside of the Chinese privet infestation on October 25, 2014.
- Travis County conducted tree trimming along City Park Road on September 17, 2014. City BCP staff requested immediate painting of the oak wounds.

Cortaña

- Oversaw decommissioning of the encroaching section of the River Place Nature Trail. Following a plan approved by the City, Environmental Survey Consulting constructed barricades, disguised the trail, and seeded and planted native plants by the end of February. Final completion of the project will be determined by success of re-vegetation.
- Continued to inspect and discourage trespass on the encroaching section of the River Place Nature Trail. Work involved patrolling the trail (with assistance from Travis County Department of Public Safety), mounting a game camera, and reviewing film taken by the camera. Trespass diminished once decommissioning work began, but did not entirely cease. Late in 2014, began oversight of the construction of a game fence to discourage further trespass.
- Assisted Lower Colorado River Authority crews with alternative access to transmission lines for inspections. Normal access is prevented until an agreement can be reached to re-establish right of ingress/egress from southern gates to Big View Drive.
- Organized and directed a cleanup of debris and tall weeds with neighbors and volunteers along the boundary from Sun Tree Cove to Pelican Point.
- Requested that Lower Colorado River Authority crews, re-building a transmission line north of the Cortaña tract, replace a damaged gate opening onto FM 620 that may have been responsible for allowing trespass into the shinnery. LCRA complied.
- Organized a volunteer day, Oct. 17, collecting Shin Oak acorns in the shinnery for use in re-vegetation work and studies elsewhere on the Preserve.

- Collected and planted seeds of woody, shrub-forming plants in expansion area south of the existing shinnery.
- Lake Austin shoreline restoration project begun by Watershed Protection Department.
- Continued fuel-moisture sampling.
- Devoted 18 staff-days to an intensive exotic plant control effort.

Emma Long Park and Preserve

- AWU and PARD staffs continued to meet monthly to discuss conservation issues at Emma Long.
- An informational kiosk was successfully installed at the Turkey Creek trail head in July/August 2013. It includes a trail map and an informational poster about Golden-cheeked Warblers. AWU and PARD staff are working on the second two panels.
- During the fall 2013 and winter 2014, stakeholders, PARD, and AWU conducted several work days at Emma Long Motocross Park to promote trail restoration and install educational signs.
- On July 1, 2014, PARD and AWU staff informed stakeholders that the Connors Creek critical water quality protection zone at Emma Long Motocross Park would be closed to trail riding, effective September 1, 2014. Signs were installed along the trailheads, and staff is developing a restoration and monitoring plan. Closure of the Connors Creek channel to trail riding is consistent with the International Mountain Biking Association's design standards and specifications. City staff has offered stakeholders the opportunity to use the BCP Trail Master Plan process to plan and construct an alternative sustainable trail to replace the trail in Connors Creek being closed.
- Conducted searches for and found the rare orchid, Largeflower/Giant Crested Coralroot (*Hexalectris grandiflora*) in May 2014.
- Worked with Austin Youth River Watch volunteers to restore damaged creek banks in a high traffic area of the Turkey Creek Trail by planting native grass plugs and using material sourced on site to reinforce banks and redefine trails.

SOUTH LAKE AUSTIN MACROSITE

BCP staff participated in the Westcave Christmas Bird Count, where the count circle includes this macrosite (Bohls Ranch, Bohls II, Reicher Ranch, and JJ&T).

JJ&T

- Austin Energy installed new poles on JJ&T floodplain in response to a downed line.
- Razed “Buddy’s” homesite and filled in pool.
- Began habitat restoration and soil amendments at selected sites.
- Lake Austin shoreline restoration project begun by Watershed Protection Department.
- Conducted winter bird hike.

Commons Ford Ranch Park

- Ongoing prairie restoration project. Vegetation surveys and Project Prairie Bird surveys conducted by volunteers.
- Led bird walk for “Vertebrate Natural History” class from University of Texas, 1 February.
- Austin Energy transmission line improvements and routine maintenance began in December 2014. Trimming and removal will continue into January 2015.

Reicher Ranch

- Constructed a barn for division operations in early 2014. Subsequent restoration is ongoing.
- Conducted a prescribed burn in Emmaus circle in October 2014.
- Hosted multiple middle school groups for interpretive activities and a seeding effort in Emmaus circle.
- Continued fuel-moisture sampling.
- Continued restoration of golden-cheeked warbler habitat on the grounds of the office headquarters and surrounding areas.
- Requested that the eBird manager for Texas birding hotspots annotate as “restricted access” the Reicher Ranch site listed on the website. A visitor to Reicher had requested creation of the hotspot without informing CoA staff. The first Travis County record of Western Bluebirds at the site in January brought requests for tours, soon after a posting of the sightings appeared on the eBird website.

Schramm Ranch

- Restoration areas continue to be monitored. New construction commenced on Madrone development. New sediment deposition occurred in September 2014 and was restored shortly thereafter. This site will also continue to be monitored.

WEST AUSTIN MACROSITE

Mount Bonnell

- Found 11 bracted twistflower (*Streptanthus bracteatus*) plants during a half-day census, April 30; no plants were found during a similar census in 2013, but 120 were tallied in 2012.
- Continued collaboration with PARD staff on plans for an ornamental iron fence, financed primarily with AWU funds, to discourage trampling of rare bracted twistflowers at the summit. Following public meetings and approval by the Historic Landmark Commission, PARD staff finalized plans in fall 2014, and submitted them to the contractor for estimate of cost.
- Objected again to a plan by the West Point Society to rappel down the cliff face to remove trash, citing concerns over disturbance of twistflower habitat at the summit.

Ullrich WTP

- Found 68 bracted twistflower (*Streptanthus bracteatus*) plants during a half-day census, April 23; only 3 plants were found during a similar census in 2013, but 129 were tallied in 2012.

Vireo Preserve

- Landowner installed a gate along the eastern fence boundary in December 2013. City staff surveyed the boundary to ensure that the fence was on City property and monitored the gate with game cameras to document trespass. The landowner was notified, and the gate was subsequently decommissioned.
- Observed two bracted twistflower rosettes in the 2010/2011 introduction sites in February 2014. Conducted bracted twistflower surveys on May 11 and 14 (7 plants found, compared to 0 in 2013).
- Built a scenic overlook on the east side of the central knoll to accommodate school groups and guided hikes in June 2014.
- Collected soil samples for routine and fungi/bacteria analyses on Wild Basin/Vireo Preserve in June 2014.
- Conducted surveys of plant species growing in the mulch sock project in July 2014.
- A core group of 6-12 volunteers assisted with habitat restoration, removal of invasive plants, trail work, erosion control, and patrols.
- Led a guided hike on the habitat restoration activities on the Vireo Preserve for the Native Plant Society, and hosted multiple school groups to help with habitat restoration activities.

- Planted several woody plants from the BCP greenhouse, including canyon mock-orange and Carolina buckthorn.
- Since Wild Basin/Vireo Preserve supports many of the habitat types observed throughout the BCP, is easily accessible, and offers the opportunity to partner with Travis County and St. Edwards University, it is an ideal site to experiment with habitat creation and restoration techniques. Lessons learned at this site should be applicable to other areas within the BCP. We are continuing adaptive management efforts initiated in 2011 to restore areas degraded by past land use by building soils, controlling erosion, and increasing diversity, with the goal of creating and enhancing endangered species habitat. Adaptive management includes installing berms and swales on contour to capture, spread, and sink, water, and using locally and commercially available materials (mulch, mulch socks, biochar, mycorrhizal fungi, soil amendments, native seed and plants) to help rebuild soils and promote regeneration of woody plants. Mulch is a common by-product of juniper-oak forest clearing and thus readily available for habitat restoration projects. Allowing mulch to age and “compost” contributes additional nutrients and micro-organisms. Biochar is a low-temperature charcoal produced from the biomass of wood and leafy plant materials, and is a commercially produced soil amendment that increases plant growth yields by contributing carbon and increasing mycorrhizal fungi activity. Other soil amendments used to date include organic fertilizers, composts, and/or mycorrhizal fungi inoculants. In conjunction with the habitat restoration work, St. Edwards University continued two research projects initiated in 2012: abundance, distribution, and diversity of ants in recently manipulated and non-manipulated areas, and soil metagenomics to determine how microbial populations (bacteria, fungi) change in response to soil amendments.

2014 BCP Outreach and Volunteer Program

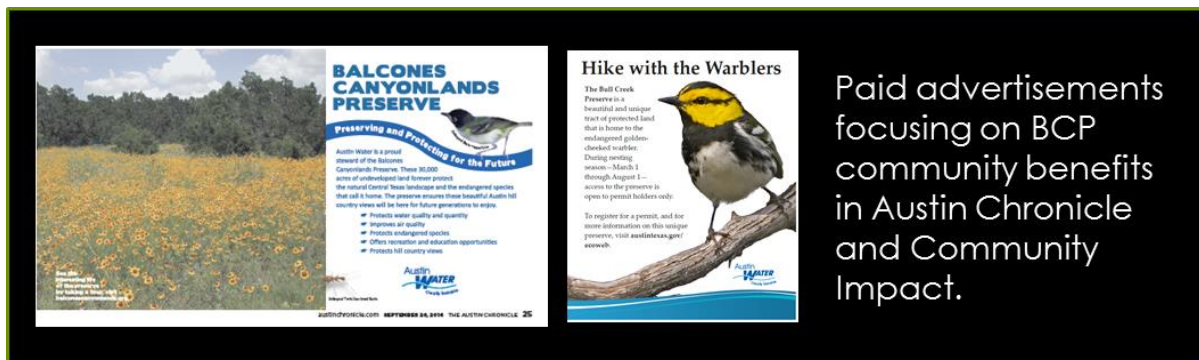
The education, outreach and volunteer program for the City of Austin’s BCP program continues to reach new audiences, expand programs to connect youth to nature and to share information about the unique habitat and partnership that is the Balcones Canyonlands Preserve. Below are highlights of the outreach, education and volunteer program for the City of Austin in 2014.

2014 City of Austin BCP Volunteer Highlights

- Trained 10 new volunteer hike guides that lead hikes for the City’s public guided hikes

- Vireo Weekly Workdays-Jim O'Donnell led over 20 volunteer workdays (most of these as a volunteer!)
- Over 40 volunteers collected golden-cheeked warbler resighting data. These volunteers donated 564.5 hours of their time during the spring of 2014 and extended the ability of staff.
- In an effort to improve safety, volunteers that lead independent projects or groups on Wildlands are now trained in CPR and First Aid. Two trainings were held in FY14.

2014 City of Austin BCP Public Information Highlights



2014 City of Austin BCP Education and Outreach Highlights

The City of Austin education and outreach highlights include a trail survey to understand BCP trail users at Bull Creek Preserve and opportunities to increase youth experiences with nature at the BCP. Below are just a few highlights of 2014.



Implemented pilot program for school group field trips on the BCP thanks to a partnership with AISD



- New Interactive Online Trail Map
- Balconescanyonlands.org



City of Austin volunteers hosted 26 BCP guided hikes with 346 participants

An increase of 46% of participants from FY13



Quotes from guided hike participants:

"It was hot. The mosquitos ate me alive. Lightening threatened our mortality. In short, I had a great time!"

"Excellent outing!! Thank you to all the organizers. We really enjoyed all the stories, plant and bird identification, info on restoration, the tea and watermelon, the view and the UFO?? sighting in addition to the super moon. Thank you!"

Together partners created a variety of opportunities for hikes, special presentations, youth education, lectures and volunteer activities. Table 10 represents not only the work of the County and the City, but all BCP partners conducting outreach activities including Wild Basin, Travis Audubon Society and The Nature Conservancy. This combined effort shows the strength and reach of BCP partnerships.

Table 10. BCCP Partners Education and Volunteer Activities Summary for FY14.

 BALCONES CANYONLANDS PRESERVE PARTNER EDUCATION ANNUAL SUMMARY Contributing Partners include: Travis County, City of Austin, Wild Basin St. Edwards University, The Nature Conservancy, Travis Audubon Society 	
124 YOUTH EDUCATION EVENTS	
FY 14 YOUTH EDU PARTICIPANT TOTAL:	6894
50 GUIDED HIKE OFFERED	
FY14 GUIDED HIKE PARTICIPANT TOTAL:	681
17 BCP HIKE AND LECTURE SERIES EVENTS OFFERED	
FY14 HIKE AND LECTURE PARTICIPANT TOTAL:	211
15 SPECIAL TOURS, NEIGHBORHOOD PRESENTATIONS OR LARGER ACTIVITIES	
TOUR PARTICIPANT TOTAL:	1612
VOLUNTEER ACTIVITIES	
A COST SAVINGS VALUE OF OVER	
VOLS. CONTRIBUTED OVER 7000 HOURS DURING FY14	\$162, 360

TRAVIS COUNTY

Travis County staff conducted a variety of resource monitoring and management activities on County-managed BCP lands in FY14, which are summarized in Tables 11 and 12. The wildlife and plant management activities are described in more detail in Appendices F and H through L. Additionally, the annual report for Wild Basin Wilderness Preserve can be found in Appendix M. Wild Basin is owned jointly by Travis County (164 acres) and St. Edwards University (63 acres) and is managed under contract by St. Edwards University.

Travis County had several personnel changes this year. Volunteer Coordinator Will Burch left in May 2014 and Program Manager Wendy Connally left in August 2014. Both positions remained vacant through the remainder of the year. Travis Clark served as the temporary Mickey Leland intern from March to June 2014.

Fence, Gate, Road, and Building Construction and Maintenance

Constructing and maintaining boundary fences is an important aspect of Preserve management. In FY14, Travis County installed 2,372 linear feet of new boundary fence on the Grandview Hills South tract. Minor fence repairs were conducted by staff on the Canyon Vista, Woody Hollow, Wild Basin, Grandview Hills North and Volente tracts. No major road projects that required contracted services occurred in FY14. Minor road repairs and vegetation trimming along roads was conducted on several tracts by Natural Resources staff. A cable gate and signage was installed at the tributary of Bull Creek on the Sam Hamilton East tract to prevent vehicles from crossing the creek when it has water. This gate was installed to protect Jollyville Plateau salamanders. Another cable gate was installed on a property adjacent (with landowners permission) to Volente in an effort to reduce trespassers from entering Volente by vehicle. A cave gate was installed at Stark's North Mine in June 2014



Newly installed cave gate at Stark's North Mine

Table 11. FY14 Monitoring and Management Activities on Tracts Managed by Travis County within the Bull Creek, North Lake Austin, South Lake Austin, West Austin, and Pedernales River Macrosites and the Cave Tracts.

Monitoring and Management Activities on the Balcones Canyonlands Preserve (Travis County Tracts)		Bull Creek Macrosite							North Lake Austin Macrosite					South Lake Austin		Pedernales River	West Austin	Cave Tracts		
		Canyon Vista	Colina Vista	Concordia	Karnik/Richards/Wendland	Origer	Ribelin	Sam Hamilton E	Woody Hollow	Franzetti/Webb	Gray Mountain	Greenshores	Hereford	Steiner Ranch	Chandler	Medway	Hamilton Pool	Wild Basin	Ireland's	Stark's N Mine
Monitoring Activities	spot-map golden-cheeked warblers (100-acre plots)	X					X											X		
	spot-map golden-cheeked warblers (non 100-acre plots)						X						X		X	X				
	spot-map black-capped vireos																			
	presence/absence survey for black-capped vireos						X						X							
	karst surface monitoring	X		X			X												X	X
	karst faunal surveys																		X	X
	cave cricket exit counts																		X	X
	Jollyville plateau salamander surveys			X				X												
	Water quality			X								X							X	
	deer surveys																X			
Management Activities	deer control								X											
	feral hog control						X	X	X											
	cowbird control																X			
	red imported fire ant control																	X		
	non-native plant control			X		X	X	X					X					X		
	black-capped vireo habitat restoration																			
	trash removal	X		X														X		X
	patrol for evidence of trespass, vandalism, and dumping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	fence maintenance or construction	X																		

Table 12. FY14 Monitoring and Management Activities on Tracts Managed by Travis County within the Cypress Creek Macrosite.

Monitoring and Management Activities on the Balcones Canyonlands Preserve (Travis County Tracts)		Bunten	Collins	Cuevas East	Cuevas West/TSNL	The Crossings	Grandview Hills North	Grandview Hills South	King/Atwood/Blake	Lake Perspectives	Lime Creek Unit	Lucas/ Lake Travis Bluffs	New Life	Nootsie	Romberg	Snowden	Spezia	Toops	Vireo Ridge/Stratton	Vista Point	Volente
Monitoring Activities	spot-map golden-cheeked warblers (100-acre plots)	X								X									X	X	
	spot-map golden-cheeked warblers (non 100-acre plots)						X							X					X		
	spot-map black-capped vireos						X												X		
	presence/absence survey for black-capped vireos			X								X							X	X	
	karst surface monitoring		X	X	X		X					X		X					X	X	
	karst faunal surveys			X	X		X					X							X	X	
	cave cricket exit counts			X	X							X								X	
	Jollyville plateau salamander surveys	X	X										X						X		
	water quality	X	X											X					X	X	
	deer surveys				X		X	X						X					X	X	
Management Activities	deer control				X		X		X	X		X	X	X		X			X	X	X
	feral hog control																				
	cowbird control													X				X			
	red imported fire ant control			X	X							X								X	
	non-native plant control			X			X					X	X			X			X		X
	black-capped vireo habitat restoration																		X		
	trash removal											X	X	X		X					
	patrol for evidence of trespass, vandalism, and dumping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Fence maintenance or construction						X	X													X

BCP-related Activities and Issues with Outside Entities

Travis County Natural Resources staff coordinated with LCRA, the City of Austin and the USFWS to review LCRA's plans to upgrade the T-160 (Marshall Ford to McNeil) transmission line which runs through Travis County's Ribelin, Sam Hamilton East, Steiner Ranch and Lucas tracts. Phase 1 of the project, which included minimal clearing/trimming of access roads, road repairs, gate work, and geotechnical investigations (soil borings) occurred in January and February 2014. In September 2014, a Temporary Workspace Agreement between Travis County and LCRA was approved, which allowed LCRA to remove trees and other vegetation from 0.6 acres of the Lucas tract that was outside of their right-of-way easement for the purpose of staging equipment to conduct line pulling activities at a critical junction of the T-160 transmission line. In September, the actual demolition of the existing 69-kV transmission line and construction of the new 138-kV line began and will continue into FY2015.

In October 2013, a volunteer patroller reported observing a tree crew clearing trees on the Karnik and Richards tracts. Natural Resources staff responded and discovered that Pedernales Electric Company (PEC) was clearing lanes from the road to an electrical distribution powerline in order to replace the poles and electrical line. PEC had not gone through the BCCP Infrastructure process and were told to stop activities until they could do so. PEC then went through the process and was allowed to proceed with what was considered emergency maintenance. Travis County staff worked with PEC to minimize impacts as they completed the project.

In May 13, 2014, a failed gasket between two 14-inch pipe sections of the force main from the Austin Water Utility's (AWU) Four Points Lift Station caused an approximately 161,000 gallon discharge of untreated wastewater onto the Cuevas tract. The wastewater flowed about 1,500 feet into an abandoned stock pond where the untreated wastewater and runoff/springflow from the contributing watershed pooled. There was some additional seepage beyond the pond dam into an unnamed tributary of Lake Travis. AWU responded quickly to stop the leak by shutting off the pump and repairing the pipe connection. Travis County NREQ, City of Austin, and TCEQ Region 11 staff conducted several inspections during May 14-29 to evaluate downstream conditions and impacts, and collect samples to determine pollutant levels. Downstream results indicated that bacteria concentration did not exceed applicable standards and that constituents indicative of sewage were not significantly elevated. After review, it was determined that the least

environmentally damaging alternative was to leave the wastewater in the pond rather than access the remote area with equipment to remove the water.

Leander Independent School District (LISD) is pursuing an individual 10(A) permit to construct an alternative access road to Vandegrift High School and Four Points Middle School along the infrastructure corridor through the Ribelin and Sam Hamilton East tracts as well as through private 10(A) mitigation lands. In July 2014, Travis County issued a Scientific Research Permit to SWCA Environmental Consultants, which allowed them access to the Ribelin and Sam Hamilton East tracts to conduct karst, cultural resources, and waters of the U.S. environmental assessments in support of the proposal (see Appendix P-17 for study results). COA and Travis County staff provided support to transportation planners and engineers studying potential solutions and reviewed a draft Habitat Conservation Plan submitted by LISD to USFWS.

Texas State Highway 45 Southwest (SH 45 SW) is a proposed roadway that would establish a new connection between FM 1826 and Loop 1 (MoPAC South) in southern Travis County. The proposed roadway would cross sensitive Edwards aquifer recharge lands and pass near Flint Ridge Cave which is designated for protection under the BCCP. Travis County and COA Natural Resources and Engineering staffs participated in technical workgroups to identify issues, scope information needs, and propose solutions for karst and aquifer protection, water quantity and quality, salamanders and invertebrate conservation, and stream protection related to the Texas 45 Southwest road project. Staff also reviewed the Draft Environmental Impact Statement and various supplemental reports related to the project.

Travis County and St. Edwards University are negotiating a revised contract for operations and maintenance of Wild Basin consistent with the requirements of the BCCP. In addition, The County and the University are evaluating potential improvements to certain publicly accessible trails at Wild Basin in response to a lawsuit filed under the Americans with Disabilities Act. Any improvements will be compatible with the requirements of the BCCP.

Travis County Wildfire Preparedness

Travis County staff actively works both on the BCP and within the community to reduce the risk of wildfire and to be prepared in the event of a wildfire. Travis County's BCP program is committed to 1) ensuring that public safety and firefighter safety are the first priority for all fire management activities; 2) continuing to work to protect property from wildfire; and 3) meeting its obligations

to protect endangered species habitat from loss due to wildfire. The BCP is surrounded by neighborhoods and roads and some tracts have power lines running through them. These areas where man-made development abuts natural terrain and vegetation are known as wildland-urban interface. The goal of management within the wildland-urban interface is to reduce the probability of accidental ignition and escalation from surface to crown fire, thereby minimizing risk to habitat and adjacent structures. Some of the wildfire preparedness activities that Travis County Natural Resources staff participated in during FY14 included:

- In February 2014, a shaded fuel break type fuel mitigation project was implemented along approximately 5 acres of back-of-lot wildland-urban interface along the Horseback Hollow neighborhood in the Steiner Ranch Preserve. The work was performed by Lake Travis Fire & Rescue (ESD 6) and conformed to Travis County Natural Resources' scope of work for fuel mitigation which is derived from USFWS' Best Management Practices for Fuel Reduction in Golden-cheeked Warbler Habitat.
- Natural Resources staff assisted with the development of the draft Community Wildfire Protection Plan for Austin/Travis County by consulting on the fuel mitigation section and providing GIS support for the risk analysis portions of the document.
- Staff provided assistance to USFWS, the Federal Emergency Management Agency, and private consultants during the Environmental Assessment phase of the Hazardous Fuel Mitigation grant approval process.
- Todd Bayless successfully completed S-215, Operations in the Wildland-Urban Interface, at the Texas Interagency Wildfire Academy.

Travis County Law Enforcement and Preserve Patrol

Management of BCP lands to meet the terms and conditions of the BCCP permit in a rapidly developing urban interface presents unique challenges for public agencies. Many BCP tracts are subject to law enforcement issues including illegal trespass (pedestrian, mountain bike, all-terrain vehicle, and motorcycle traffic), illegal dumping, vandalism, theft, poaching of native wildlife, illegal cutting of vegetation and unauthorized use of fire.

Law enforcement on all Travis County managed properties, including County Parks and County BCP tracts, are provided by Park Police. Park Police are part of Travis County's Parks Division and are commissioned Texas Peace Officers operating as Deputy Sheriffs under the Travis County Sheriff's Office (TCSO).

They are also certified by the Texas Department of State Health Services as Emergency Medical Technicians. The Park Police and Travis County's Natural Resources staff regularly patrol and inspect County managed BCP tracts to look for signs of illegal activity and to assess management needs. Regular patrols provide a visible County presence, thereby minimizing the incidence of unauthorized activities. Patrols also allow staff to inspect fences, locked gates, facilities, trails and roads, and look for resource management issues such as non-native plant and animal encroachment and signs of oak wilt infestation.

In FY14 there were 27 documented incidents within the preserve. Seven of these being a trespass issue only, 11 were written up as criminal mischief (cut fences and locks, signs vandalized, deer feeders knocked over, drug paraphernalia discovered, fireworks), five were 'rules violations' (illegal cutting of vegetation, encroachment onto preserve), one theft (a wildlife camera), two incidents of loose livestock, and one emergency landing of a distressed hot air balloon. Of these incidents, there were three written criminal trespass warnings, one arrest by law enforcement and several verbal warnings issued to violators.

Trespassing and criminal mischief in the Preserve remains the leading violation observed. Several surveillance cameras were operated on various BCP tracts which documented almost three dozen different unlawful entries. These cameras helped determine the frequency and times at which violators accessed the Preserve. The Volente tract continues to be the most frequently patrolled tract due to ongoing illegal access issues there. A cable gate was installed near an entry point on an adjacent property, with the landowner's consent, in an attempt to prevent vehicular access onto the Volente tract. It succeeded in preventing large 4 x 4 vehicles from entering but not ATV's or motorcycles. The Steiner Ranch tract was also more heavily patrolled this year and multiple back-of-lot violations were observed, the most frequent being the illegal cutting of trees. Staff worked with the Steiner Ranch Community Association to determine ways to deter tree cutting by residents in the future and also developed procedures to mitigate for any vegetation losses that do occur.

Two reported fires occurred this past year on the preserve, one being along the infrastructure corridor on the Ribelin tract behind Vandergrift high school. The other fire occurred on the morning of July 4th on the Steiner Ranch tract. Fireworks were suspected to have been the ignition source in both cases as they were found nearby. Both incidents were reported immediately by neighbors and extinguished by local fire authorities before extensive damage occurred.

Travis County BCP Volunteer and Outreach Programs

Travis County BCP benefited from the efforts of 111 volunteers who invested time into many different types of projects. Volunteers spent their time on the following activities: biological monitoring, wildlife management, non-native plant removal, native plant propagation, water quality monitoring, trail maintenance, patrol, education and outreach, data organization, and administrative activities. The Volunteer Program has been effective at promoting education and outreach at the BCP; the program also reduces staff time and costs for BCP management. Overall, volunteers contributed 1,146.25 hours to assist Travis County at the BCP in FY14 (Table 13).

Table 13. Volunteer Hours Contributed to Travis County's BCP in FY14

Type of Activity	Number of Hours
Bird Monitoring	174
Jollyville Plateau Salamander Monitoring	17
Karst Biological Surveys/Cricket Counts	33.5
Wildlife Management Activities	52
Non-native Plant Removal and Mapping	236
Native Plant Propagation & Rescue	154
Aquatic Water Quality Monitoring	77.25
Data Management & Administrative Activities	143.5
Public Education and Outreach	45
Patrol	110.5
Maintenance	103.5
Total	1146.25

Education and Outreach Activities

Travis County presented information about the BCP at hikes and tours, community meetings, public events, and training workshops. Approximately 1,789 individuals were reached through these efforts (Table 14).

Table 14. Travis County BCP Education and Outreach Summary for FY14.

Type of Activity	Total Events BCP	Total BCP Participants
Special Events	4	455
Children's Programs/Hikes	13	994
University Programs	2	25
Community Programs/Hikes	19	164
HOA/Neighbor Meetings	4	94
Hike/Lecture Series	4	49
Other Hikes/Tours	1	8
Total	47	1789

Some of the Travis County BCP education and outreach highlights in FY2014 include:

- Natural Resources staff participated in and helped organize a number of special events this year including the 2013 BCCP Infrastructure Conference and the Travis County Earth Day Celebration.
- The FY14 BCP Hike and Lecture Series provided monthly guided hikes for the public to visit and learn about the Preserve and the plants and animals that the BCP protects. Overall, Travis County planned four different events throughout FY14. County staff led one interpretive hike at Hamilton Pool and held two educational hikes and lectures covering monarch butterflies at the Jollyville Unit. Travis County also hosted a lecture covering snakes at Wild Basin Preserve as part of the Hike and Lecture Series.
- Travis County reached out to area children this year by giving an educational presentation and hike during a Summer Camp held at Alma de Mujer. Outreach programs were also given at Laurel Mountain, Walnut Creek, England, Pease, Gallindo, Baranoff, and T.A. Brown elementary schools, as well as McNeil high school. Students learned about the endangered species found in the BCP as well as other local wildlife.
- Natural Resources staff led 15 neighborhood hikes throughout the year, educating hikers about all facets of the preserve. Hikes occurred at the Vista Point, Nootsie, Snowden, and Canyon Vista.
- The BCP also served as a living classroom for university students from Concordia University and St. Edwards University. Travis County granted Educational Permits to several professors from these two universities which allowed them to take students onto the Concordia and Wild Basin tracts for tours and to get experience in environmental monitoring. Several hundred students had the opportunity to learn about the BCP and get field experience while taking these courses.

LOWER COLORADO RIVER AUTHORITY

Annual Status Report for the Balcones Canyonlands Conservation Plan
October 1st 2013-September 30th 2014

Management Highlights

The Lower Colorado River Authority (LCRA) manages 2,707 acres as a portion of the preserve system. Management activities for the three LCRA preserves continued to focus on natural resource research and management, access management, and stewardship promotion.

Westcave

- Westcave Preserve Corporation staff hosted 13,907 students, teachers, and visitors from October 1, 2013 to September 30, 2014.
- Preserve staff conducted routine property monitoring and maintenance including fence repair and signage, and invasive plant management.
- LCRA Environmental staff did not conduct presence/absence surveys on the tract this year.

McGregor

- Deer harvest activities were not conducted at McGregor during the 2013-2014 season. No deer or feral pigs were removed from the preserve this year.
- LCRA staff continued to work with the Comanche Trail Community Association (CTCA) to promote local support of land management, animal management, and stewardship efforts on the preserve. Permit renewal training was not held during this reporting period; however, during this reporting period, there were 14 permitted McGregor Good Neighbors. The active participation of the permittees continues to be an asset to preserve management. Individuals notify LCRA staff about trail conditions, access concerns, and general preserve status, as well as make suggestions for additional cooperative efforts between the CTCA and the LCRA.
- LCRA staff continued to conduct routine property surveys to identify and address maintenance needs and access issues. Activities included walking the preserve's perimeter, mending small sections of fence, and installing perimeter signs at strategic locations to discourage trespass.
- LCRA partnered with Travis County/COA to allow access for ongoing research being conducted by COA in partnership with The US Forest Service. The report for the research is included in the City of Austin's 2014 avian ES report (Appendix F).

Wheless

- LCRA contracted the consulting firm Blanton and Associates to conduct territory level GCWA surveys on the 100-acre Prime Plot and the 100 acre transitional plot (Appendix P.6). During the surveys of the Prime Plot, Blanton staff logged 125 observations of adult male GCWA, six observations of adult female GCWA, and three observations of GCWA fledglings. During the surveys of the Transitional Plot, Blanton staff logged 33 observations of adult male GCWA, two observations of adult female GCWA, and no observations of GCWA fledglings. Blanton staff estimates that approximately six territories (3 full/3 edge) are located

within the Prime Plot and three territories are located within the transitional plot (1 full/2 edge).

- Deer spotlight surveys were not conducted on the Wheless Preserve during this reporting period but are scheduled to resume during the next period. No deer or feral pigs were removed from the preserve this year.
- LCRA staff did not monitor invasive plants during this reporting period. Invasive plants will be documented as they are identified in upcoming reporting periods.
- LCRA staff continued to conduct routine property surveys to identify and address maintenance needs and access issues. Activities included walking the preserve's perimeter, mending small sections of fence, and installing perimeter signs at strategic locations to discourage trespass.
- LCRA partnered with Travis County/COA to allow access for ongoing research being conducted by COA in partnership with The US Forest Service and University of Missouri. The final report for the research is included in the City of Austin's 2014 avian ES report (Appendix F). In addition, City of Austin Watershed Protection staff was issued a land use permit for access to conduct Jollyville Plateau salamander surveys; however, COA staff reported that no surveys were conducted during the period.

CITY OF SUNSET VALLEY

The City of Sunset Valley entered a BCCP Managing Partner Agreement on 7 February 2014 and designated 21.585 acres, known as the Gaines Greenbelt, as BCP. A report of the monitoring and management activities conducted on the Gaines Greenbelt for FY14 is included as Appendix N.

THE NATURE CONSERVANCY OF TEXAS

Annual Report for Barton Creek Habitat Preserve

Science / Stewardship

Annual surveys (point count) were completed for the black-capped vireo (BCV) and golden-cheeked warblers (GCW) to determine population densities. Texas A&M University conducted transect surveys in a study to determine the impact of expansion and construction of state highway 71 on the GCWs (Appendix P.8). Sixty-eight of the identified 76 paired territories were monitored, 19 nests were found and 12 successfully fledged young. Two male BCVs were observed on the property for several weeks but no females were detected. One of the males was

banded with a single pink band on one leg. Brown-headed cowbirds were removed from the property with the use of a shotgun.

Preserve staff and TPWD public lands lottery hunters are helping to control the population of white-tailed deer in an effort to reduce browse and increase recruitment of Texas Oaks. Population is estimated through spot-light surveys, stand counts and camera surveys.

Austin Youth River Watch continued to monitor water quality in Barton Creek, the results have not found any anomalies.

No prescribed fires were completed on the preserve over the last year due to burn bans. Four burn units totaling approximately 354 acres are ready to be completed during the upcoming winter season.

Education/Outreach/Volunteers

The preserve hosted approximately 3204 visitors, 427 volunteers totaling 1387 hours of work, and 312 used the property for educational purposes. Groups included the Boy Scouts of America, Texas Parks and Wildlife, Balcones Canyonlands Preserve visitors, Austin Youth River Watch, Earth Native Wilderness School, Capital Area Master Naturalists, Audubon Society, the University of Texas, St. Edwards University, Texas A&M University, and the University of Missouri.

TRAVIS AUDUBON SOCIETY

Travis Audubon Society owns and manages 680 acres at the Baker Sanctuary which are included as part of the BCP. A report of the monitoring and management activities conducted on the Bakers Sanctuary for FY13 is included as Appendix O.

LITERATURE CITED

- City of Austin and Travis County. 1995. *Interlocal Cooperation Agreement between Travis County and the City of Austin Implementing the Balcones Canyonlands Conservation Plan-Shared Vision*.
- U. S. Fish and Wildlife Service. 1996a. *Federal Fish and Wildlife Permit No. PRT-788841*.
- U. S. Fish and Wildlife Service. 1996b. *Final Environmental Impact Statement / Habitat Conservation Plan for Proposed Issuance of a Permit to Allow Incidental Take of the Golden-cheeked Warbler, Black-capped Vireo, and six karst invertebrates in Travis County, Texas*.